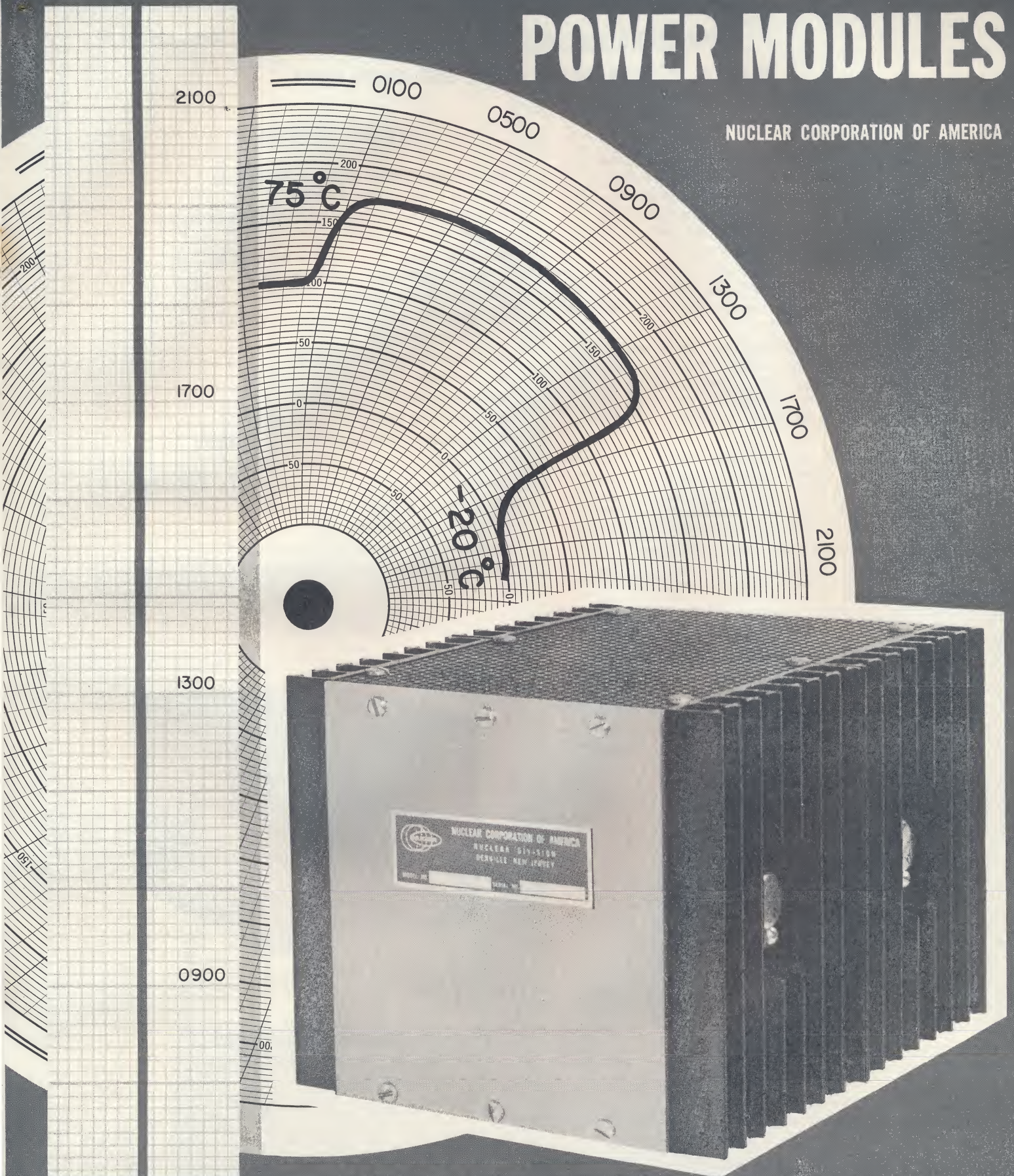


MIL SPEC POWER MODULES

NUCLEAR CORPORATION OF AMERICA



2 RICHWOOD PLACE, DENVER, NEW JERSEY 07834 (201) OAKWOOD 7-4200



HIGH MTBF MIL SPEC POWER MODULES

NPM SERIES FOR MILITARY APPLICATIONS

MEAN TIME BETWEEN FAILURES (MTBF): OVER 150,000 HOURS

DESIGN FEATURES

NUCOR military specification power modules are designed to achieve the maximum in reliability by incorporating components selected from MIL-STD-242 (including semi-conductors per MIL-STD-701) in unique circuits utilizing fewer parts operated under the lowest stress factors.

All modules are fully serviceable with every component readily accessible. No pre-selection of components is ever necessary for complete operation to specification.

The NPM series is designed and certified to meet or exceed the military environment of specifications MIL-E-16400, MIL-E-5400, MIL-T-21200, and MIL-E-5272 for temperature — vibration — acceleration — humidity — shock — altitude — salt spray.

Result: MTBF of over 150,000 hours of trouble-free operation within specification at temperatures up to 75°C — and there are no thermal derating curves that will modify this statement. A stock NUCOR MIL spec. power module eliminates the need for most custom designs. CHECK THE SPECS.

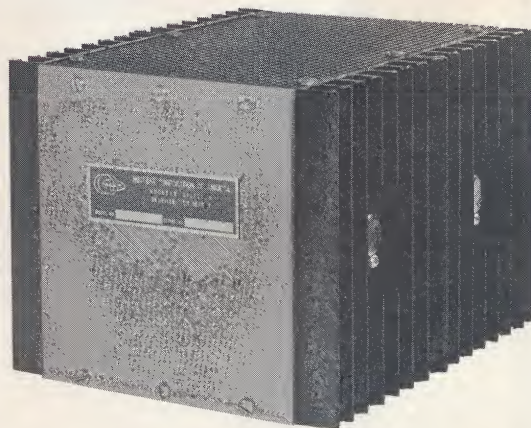
- Conservatively rated components
- Full solid-state circuitry
- Silicon transistors and semi-conductors per MIL-STD-701
- Fully rated to +75°C — no fans or additional heat sinks required
- Adjustable voltage settings
- Isolated and ungrounded outputs: either polarity
- Completely serviceable
- Overload protected
- Short-circuit protected
- Excellent transient recovery
- Remote error load sensing provided
- Easily installed and connected
- No warmup time required — fast stabilization
- Remote programming available
- Series operation
- Complete modular construction
- High MTBF design: exceeds 150,000 hours

POWER MODULES WITH OPTIONAL INTEGRATED CIRCUITRY

URGENT! Military and high reliability commercial programs require the use of micro-integrated circuits whenever possible. Where conventional circuits are utilized, it is mandatory that they be easily converted to solid state micro-integrated circuits. Now, from the design laboratories at NUCOR come the first power supplies utilizing monolithic integrated circuitry in the error sensing and control amplifier sections.

IN FABRICATION...

The monolithic integrated circuit (0.260" x 0.260" x 0.050") replaces the following conventional components: 9 transistors, 12 resistors, and 39 solder connections.



GENERAL SPECIFICATIONS

INPUT POWER:

Nominal 115 vac $\pm 10\%$ 47-440 cps

OUTPUT POWER: See tables**REGULATION:**

Line less than 2 mv, or 0.02%.

Load less than 4 mv, or 0.025%.

RIPPLE AND NOISE:

Less than 1 mv peak-peak combined
typical value 250 microvolts RMS.

OUTPUT TRANSIENT RECOVERY:

Less than 50 microseconds, typical
20 microseconds.

No turn on or turn off transients.

TEMPERATURE COEFFICIENT:

From -20 to +75°C — less than
0.01% per degree centigrade or
3 mv. — typical 0.0075%.

Government quality assurance representatives are resident at our Denville plant.

1 AMPERE MODULES

+75°C AMBIENT WITHOUT DERATING — UP TO 1.5 AMPERES
OUTPUT AT LOWER TEMPERATURES

MODEL NO.	OUTPUT RANGE VOLTS D.C.	CASE SIZE	UNIT PRICE LIST			
			1-4	5-9	10-19	20-24
NPM 071	0-7	A1	\$285.	\$275.	\$265.	\$240.
NPM 51	3.5-5.5	A0	275.	265.	255.	230.
NPM 61	4-8	A0	275.	265.	255.	230.
NPM 71	5.5-8.5	A0	275.	265.	255.	230.
NPM 81	6.5-9.5	A0	275.	265.	255.	230.
NPM 91	7.5-10.5	A0	275.	265.	255.	230.
NPM 101	8.5-11.5	A0	275.	265.	255.	230.
NPM 111	9.5-12.5	A0	275.	265.	255.	230.
NPM 121	10-14	A0	275.	265.	255.	230.
NPM 131	11.5-14.5	A1	275.	265.	255.	230.
NPM 141	12.5-15.5	A1	275.	265.	255.	230.
NPM 151	13.5-16.5	A1	275.	265.	255.	230.
NPM 161	14.5-17.5	A1	275.	265.	255.	230.
NPM 171	15.5-18.5	A1	275.	265.	255.	230.
NPM 181	16-20	A1	275.	265.	255.	230.
NPM 191	17.5-20.5	A1	275.	265.	255.	230.
NPM 201	18.5-21.5	A1	275.	265.	255.	230.
NPM 211	19.5-22.5	A1	280.	270.	260.	235.
NPM 221	20.5-23.5	A1	280.	270.	260.	235.
NPM 231	21.5-24.5	A1	280.	270.	260.	235.
NPM 241	22-26	A1	280.	270.	260.	235.
NPM 251	23.5-26.5	A1	280.	270.	260.	235.
NPM 261	24.5-27.5	A1	280.	270.	260.	235.
NPM 271	25.5-28.5	A1	280.	270.	260.	235.
NPM 281	26-30	A1	280.	270.	260.	235.
NPM 291	27.5-30.5	A1	280.	270.	260.	235.
NPM 301	28.5-31.5	A1	280.	270.	260.	235.
NPM 311	29.5-32.5	A1	280.	270.	260.	235.
NPM 321	30-34	A1	280.	270.	260.	235.
NPM 331	31.5-34.5	A1	280.	270.	260.	235.
NPM 341	32.5-35.5	B1	315.	305.	290.	265.
NPM 351	33.5-36.5	B1	315.	305.	290.	265.
NPM 361	34.5-37.5	B1	315.	305.	290.	265.
NPM 371	35.5-38.5	B1	315.	305.	290.	265.
NPM 381	36.5-39.5	B1	315.	305.	290.	265.
NPM 391	37.5-40.5	B1	315.	305.	290.	265.
NPM 401	38.5-41.5	B1	315.	305.	290.	265.
NPM 411	39.5-42.5	B1	315.	305.	290.	265.
NPM 421	40.5-43.5	B1	315.	305.	290.	265.
NPM 431	41.5-44.5	B1	315.	305.	290.	265.
NPM 441	42.5-45.5	B2	320.	310.	295.	267.
NPM 451	43.5-46.5	B2	320.	310.	295.	267.
NPM 461	44.5-47.5	B2	320.	310.	295.	267.
NPM 471	45.5-48.5	B2	320.	310.	295.	267.
NPM 481	46-50	B2	320.	310.	295.	267.
NPM 491	47.5-50.5	B2	320.	310.	295.	267.
NPM 501	48.5-51.5	B2	320.	310.	295.	267.

2 AMPERE MODULES

+75°C AMBIENT WITHOUT DERATING — UP TO 3 AMPERES
OUTPUT AT LOWER TEMPERATURES

MODEL NO.	OUTPUT RANGE VOLTS D.C.	CASE SIZE	UNIT PRICE LIST			
			1-4	5-9	10-19	20-24
NPM 072	0-7	A2	\$305.	\$295.	\$280.	\$255.
NPM 52	3.5-6.5	A1	300.	290.	275.	250.
NPM 62	4-8	A1	300.	290.	275.	250.
NPM 72	5.5-8.5	A1	300.	290.	275.	250.
NPM 82	6.5-9.5	B1	315.	305.	290.	265.
NPM 92	7.5-10.5	B1	315.	305.	290.	265.
NPM 102	8.5-11.5	B1	315.	305.	290.	265.
NPM 112	9.5-12.5	B1	315.	305.	290.	265.
NPM 122	10-14	B1	315.	305.	290.	265.
NPM 132	11.5-14.5	B1	315.	305.	290.	265.
NPM 142	12.5-15.5	B1	315.	305.	290.	265.
NPM 152	13.5-16.5	B1	315.	305.	290.	265.
NPM 162	14.5-17.5	B1	315.	305.	290.	265.
NPM 172	15.5-18.5	B1	315.	305.	290.	265.
NPM 182	16-20	B2	320.	310.	295.	267.
NPM 192	17.5-20.5	B2	320.	310.	295.	267.
NPM 202	18.5-21.5	B2	320.	310.	295.	267.
NPM 212	19.5-22.5	B2	320.	310.	295.	267.
NPM 222	20.5-23.5	B2	320.	310.	295.	267.
NPM 232	21.5-24.5	B2	320.	310.	295.	267.
NPM 242	22-26	B2	320.	310.	295.	267.
NPM 252	23.5-26.5	B2	320.	310.	295.	267.
NPM 262	24.5-27.5	B2	320.	310.	295.	267.
NPM 272	25.5-29.5	B2	320.	310.	295.	267.
NPM 282	26-30	B2	320.	310.	295.	267.
NPM 292	27.5-30.5	B2	320.	310.	295.	267.
NPM 302	28.5-31.5	B2	320.	310.	295.	267.
NPM 312	29.5-32.5	B2	320.	310.	295.	267.
NPM 322	30-34	B2	330.	315.	300.	275.
NPM 332	31.5-34.5	B2	330.	315.	300.	275.
NPM 342	32.5-35.5	B2	330.	315.	300.	275.
NPM 352	33.5-36.5	B2	320.	310.	295.	267.
NPM 362	34.5-37.5	B2	330.	315.	305.	275.
NPM 372	35.5-38.5	B2	330.	315.	305.	275.
NPM 382	36.5-39.5	C4	335.	325.	310.	280.
NPM 392	37.5-40.5	C4	335.	325.	310.	280.
NPM 402	38.5-41.5	C4	335.	325.	310.	280.
NPM 412	39.5-42.5	C4	335.	325.	310.	280.
NPM 422	40.5-43.5	C4	335.	325.	310.	280.
NPM 432	41.5-44.5	C4	335.	325.	310.	280.
NPM 442	42.5-45.5	C4	335.	325.	310.	280.
NPM 452	43.5-46.5	C4	335.	325.	310.	280.
NPM 462	44.5-47.5	C4	335.	325.	310.	280.
NPM 472	45.5-48.5	C4	365.	350.	335.	305.
NPM 482	46.5-49.5	C4	365.	350.	335.	305.
NPM 492	47.5-50.5	C4	365.	350.	335.	305.
NPM 502	48.5-51.5	C4	365.	350.	335.	305.

4 AMPERE MODULES

+75°C AMBIENT WITHOUT DERATING — UP TO 5 AMPERES
OUTPUT AT LOWER TEMPERATURES

MODEL NO.	OUTPUT RANGE VOLTS D.C.	CASE SIZE	UNIT PRICE LIST			
			1-4	5-9	10-19	20-24
NPM 074	0-7	C4	\$430.	\$410.	\$395.	\$360.
NPM 54	3.5-5.5	B2	415.	400.	380.	345.
NPM 64	6-10	B2	415.	400.	380.	345.
NPM 74	5.5-8.5	B2	415.	400.	380.	345.
NPM 84	6.5-9.5	B2	415.	400.	380.	345.
NPM 94	7.5-10.5	B2	415.	400.	380.	345.
NPM 104	8.5-11.5	B2	415.	400.	380.	345.
NPM 114	9.5-12.5	B2	415.	400.	380.	345.
NPM 124	10-14	B2	420.	405.	385.	350.
NPM 134	11.5-14.5	B2	420.	405.	385.	350.
NPM 144	12.5-15.5	B2	420.	405.	385.	350.
NPM 154	13.5-16.5	B2	420.	405.	385.	350.
NPM 164	14.5-17.5	B2	420.	405.	385.	350.
NPM 174	15.5-18.5	B2	420.	405.	385.	350.
NPM 184	16-20	C4	425.	410.	390.	350.
NPM 194	17.5-20.5	C4	425.	410.	390.	350.
NPM 204	18.5-21.5	C4	425.	410.	390.	350.
NPM 214	19.5-22.5	C4	425.	410.	390.	350.
NPM 224	20.5-23.5	C4	425.	410.	390.	350.
NPM 234	21.5-24.5	C4	425.	410.	390.	350.
NPM 244	22-26	C4	425.	410.	390.	350.
NPM 254	23.5-26.5	C4	425.	410.	390.	350.
NPM 264	24.5-27.5	C4	425.	410.	390.	350.
NPM 274	25.5-28.5	C4	425.	410.	390.	350.
NPM 284	26-30	C4	425.	410.	390.	350.
NPM 294	27.5-30.5	C4	425.	410.	390.	350.
NPM 304	28.5-31.5	C4	425.	410.	390.	350.
NPM 314	29.5-32.5	C4	435.	420.	400.	360.
NPM 324	30-34	C4	435.	420.	400.	360.
NPM 334	31.5-34.5	C4	435.	420.	400.	360.
NPM 344	32.5-35.5	C4	435.	420.	400.	360.
NPM 354	33.5-36.5	C4	440.	425.	405.	365.
NPM 364	34.5-37.5	C4	440.	425.	405.	365.
NPM 374	35.5-38.5	C4	440.	425.	405.	365.
NPM 384	36.5-39.5	C4	440.	425.	405.	365.
NPM 394	37.5-40.5	D4	470.	450.	430.	370.
NPM 404	38.5-41.5	D4	470.	450.	430.	370.
NPM 414	39.5-42.5	D4	470.	450.	430.	370.
NPM 424	40.5-43.5	D4	470.	450.	430.	370.
NPM 434	41.5-44.5	D4	470.	450.	430.	370.
NPM 444	42.5-45.5	D4	470.	450.	430.	370.
NPM 454	43.5-46.5	D4	475.	455.	435.	390.
NPM 464	44.5-47.5	D4	475.	455.	435.	390.
NPM 474	45.5-48.5	D4	475.	455.	435.	390.
NPM 484	46.5-49.5	D4	475.	455.	435.	390.
NPM 494	47.5-50.5	D4	505.	485.	460.	415.

8 AMPERE MODULES

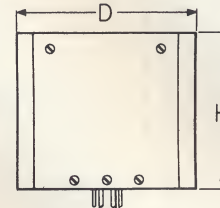
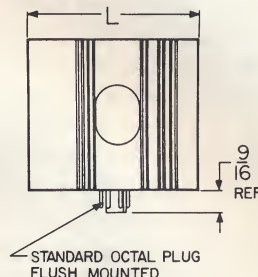
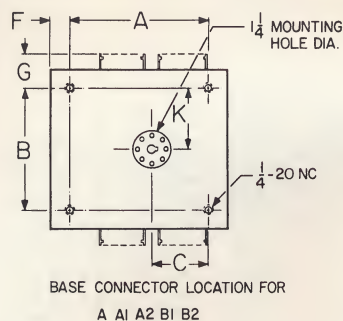
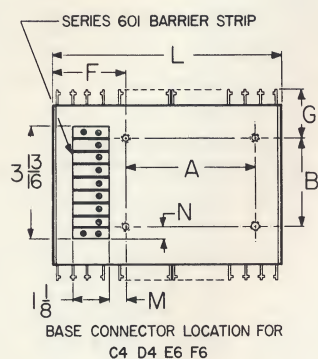
+75°C AMBIENT WITHOUT DERATING — UP TO 12 AMPERES
OUTPUT AT LOWER TEMPERATURES

MODEL NO.	OUTPUT RANGE VOLTS D.C.	CASE SIZE	UNIT PRICE LIST			
			1-4	5-9	10-19	20-24
NPM 078	0-7	E6	\$505.	\$485.	\$460.	\$415.
NPM 58	3.5-6.5	C4	485.	465.	445.	400.
NPM 68	6-10	C4	485.	465.	445.	400.
NPM 78	5.5-8.5	C4	485.	465.	445.	400.
NPM 88	6.5-9.5	C4	485.	465.	445.	400.
NPM 98	7.5-10.5	C4	505.	485.	460.	415.
NPM 108	8.5-11.5	D4	505.	485.	460.	415.
NPM 118	9.5-12.5	D4	505.	485.	460.	415.
NPM 128	10-14	D4	505.	485.	460.	415.
NPM 138	11.5-14.5	D4	505.	485.	460.	415.
NPM 148	12.5-15.5	D4	505.	485.	460.	415.
NPM 158	13.5-16.5	D4	505.	485.	460.	415.
NPM 168	14.5-17.5	D4	505.	485.	460.	415.
NPM 178	15.5-18.5	D4	505.	485.	460.	415.
NPM 188	16-20	D4	505.	485.	460.	415.
NPM 198	17.5-20.5	D4	505.	485.	460.	415.
NPM 208	18.5-21.5	F6	525.	505.	480.	430.
NPM 218	19.5-22.5	F6	525.	505.	480.	430.
NPM 228	20.5-23.5	F6	525.	505.	480.	430.
NPM 238	21.5-24.5	F6	525.	505.	480.	430.
NPM 248	22-26	F6	525.	505.	480.	430.
NPM 258	23.5-26.5	F6	525.	505.	480.	430.
NPM 268	24.5-27.5	F6	525.	505.	480.	430.
NPM 278	25.5-28.5	F6	525.	505.	480.	430.
NPM 288	26.5-29.5	F6	525.	505.	480.	430.
NPM 298	27.5-30.5	F6	525.	505.	480.	430.
NPM 308	28.5-31.5	F6	525.	505.	480.	430.
NPM 318	29.5-32.5	F6	540.	515.	490.	445.
NPM 328	30-34	F6	540.	515.	490.	445.

MODULAR UNITS

ALL DIMENSIONS IN INCHES

CASE SIZE	DEPTH	LENGTH	HEIGHT	A	B	F	G	C	K	M	N
A0	4 $\frac{1}{16}$	4 $\frac{7}{8}$	5	3 $\frac{3}{8}$	3 $\frac{3}{8}$	$\frac{3}{4}$	2 $\frac{25}{32}$	2 $\frac{25}{32}$	2 $\frac{5}{16}$		
A1	5 $\frac{1}{32}$	4 $\frac{7}{8}$	5	3 $\frac{3}{8}$	3 $\frac{3}{8}$	$\frac{3}{4}$	1 $\frac{1}{16}$	2 $\frac{25}{32}$	2 $\frac{5}{16}$		
A2	6 $\frac{1}{4}$	4 $\frac{7}{8}$	5	3 $\frac{3}{8}$	3 $\frac{3}{8}$	$\frac{3}{4}$	1 $\frac{1}{16}$	2 $\frac{25}{32}$	2 $\frac{5}{16}$		
B1	5 $\frac{7}{8}$	6	5 $\frac{1}{2}$	4 $\frac{3}{4}$	4	$\frac{5}{8}$	$\frac{5}{8}$	2	2		
B2	6 $\frac{1}{2}$	6	5 $\frac{1}{2}$	4 $\frac{3}{4}$	4	$\frac{5}{8}$	1 $\frac{1}{4}$	2	2		
C4	6 $\frac{3}{4}$	8 $\frac{1}{2}$	5 $\frac{1}{2}$	4 $\frac{1}{2}$	3	2 $\frac{1}{2}$	1 $\frac{7}{8}$			1 $\frac{1}{32}$	1 $\frac{1}{32}$
D4	6 $\frac{3}{4}$	9 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	3	2 $\frac{1}{2}$	1 $\frac{7}{8}$			1 $\frac{1}{32}$	1 $\frac{1}{32}$
E6	6 $\frac{3}{4}$	10	5 $\frac{1}{2}$	4 $\frac{1}{2}$	3	2 $\frac{1}{2}$	1 $\frac{7}{8}$			$\frac{9}{32}$	1 $\frac{1}{32}$
F6	7 $\frac{1}{16}$	10 $\frac{1}{8}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	3	2 $\frac{1}{2}$	2 $\frac{1}{32}$			1 $\frac{1}{32}$	1 $\frac{1}{32}$



REDUCED SIZES

NUCOR power supplies are normally designed to operate with an input power frequency of 47-440 cycles. Units are available for operation at 400 or 1300 cycles with reduced size and weight advantages.

POWER CONNECTIONS

Input and output power connections are normally supplied either as a standard male octal connector or, for large units, by means of a barrier strip. NUCOR units are available with standard MS connectors at slight additional cost. Please specify, if so desired.

Remote load sensing is standard without additional cost on all power supplies with current ratings of 1 ampere and over in rating and can be provided on any other NUCOR supply upon request.

CONTACT YOUR AREA REPRESENTATIVE

ALABAMA
BRENNAN ASSOCIATES, INC.
BOX 1074
HUNTSVILLE
536-7425

ARIZONA
STEPCO
138 EAST STETSON
BOX 3109
SCOTTSDALE
945-4925

CALIFORNIA
CROWN ELECTRONICS
BOX 2573
VAN NUYS
873-1266

CALIFORNIA
DATA ASSOCIATES
1160 TERRA BELLA AVENUE
MOUNTAIN VIEW 94041
961-8760

COLORADO
STEPCO
216 CLAYTON STREET
DENVER 80206
388-9301

CONNECTICUT
BROGER INSTRUMENT SALES CO., INC.
31 BROADWAY
BOX 2917
NEW HAVEN 06515
777-6279

FLORIDA
BRENNAN ASSOCIATES, INC.
804 FRANKLIN STREET
BOX 804
CLEARWATER 33516
446-5006

MARYLAND
ARNOLD RATNER ASSOCIATES
9148 EDMONSTON ROAD
ROOM 202
GREENBELT
474-8552

MASSACHUSETTS
BROGER INSTRUMENT SALES CO., INC.
176 SECOND AVENUE WALTHAM
891-8045

NEW JERSEY/NEW YORK (METROPOLITAN)
HANSEN ASSOCIATES
BOX 339
RIDGEWOOD, N. J.
652-7055

NEW MEXICO
STEPCO
5012 GRAND AVENUE, N. E.
BOX 8026
ALBUQUERQUE 87108
256-9612

NEW YORK
TESCO
114 MILES AVENUE
SYRACUSE 13210
474-3291

OHIO
FRED R. SHARP CO.
12417 CEDAR ROAD
CLEVELAND 6
321-4200

1720 SECTION ROAD
CINCINNATI

3310 BISHOP STREET
TOLEDO

PENNSYLVANIA
ARNOLD RATNER ASSOCIATES
301 YORK ROAD
JERKINTOWN
887-5250

SOUTH CAROLINA
BRENNAN ASSOCIATES, INC.
AIKEN
BOX 871
649-7100

TEXAS
ELCOM
2616 W. MOCKINGBIRD LANE
BOX 20313
DALLAS
352-5006

TEXAS
STEPCO
1035 EAST SIDE ROAD
BOX 9836
EL PASO 79988
772-5274

UTAH
STEPCO
138 SOUTH SECOND STREET EAST
SALT LAKE CITY 84111
355-8152

ORDERING

Specify catalog number of power supply desired. Include significant specifications and options required such as "Micro-Integrated Circuitry" or type of connectors. Place

order directly with Nuclear Corporation of America, 2 Richwood Place, Denville, N. J., or our factory representative in your area. Requests for quotations promptly answered.

SHIPPING

Normal shipment by motor freight unless other means of transportation specified on your order.

TERMS

1% 10 Days, Net 30 Days to firms with established credit account. All other orders will be on a pre-paid or C.O.D. basis. All prices F.O.B. Denville, N. J.



nuclear corporation of america

2 RICHWOOD PLACE DENVER NEW JERSEY 07834 (201) OAKWOOD 7-4200